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Portsmouth, Virginia

Public Schools

REPORT AND SURVEY

OF

SCHOOL HOUSING CONDITIONS

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CHARLES M. ROBINSON,

SCHOOL ARCHITECTS

Portsmouth Public Schools

1921

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no 1

School Board Organization

First District:

R. S. Marshall
W. F. Robertson
Mrs. Cora S. Darden

Second District:

B. L. Shepherd
F. T. Briggs
W. R. McGehee

Third District:

J. E. Carroll
H. J. Maddrey
C. N. Markham

STANDING COMMITTEES.

Committee on School Regulations:—Messrs. Marshall (Chairman), Briggs and Robertson.
Committee on Buildings and Equipment:—Messrs. McGehee (Chairman), Shepherd and Carroll.
Committee on Finance:—Messrs. Maddrey (Chairman), Markham and Mrs. Darden.

OFFICERS OF THE BOARD.

President, F. T. BRIGGS	New Kirn Building
Vice-President, R. S. MARSHALL	Bank of Tidewater
Treasurer, H. L. HUDGINS	Court House
Clerk, MISS NELLIE J. SIMMONS	Armistead Building
Stenographer, MISS ALICE EWELL	Armistead Building
Architect, CHARLES M. ROBINSON	Richmond, Va.

SUPERINTENDENT OF SCHOOLS.

HARRY A. HUNT — Armistead Building

LETTER OF TRANSMITTAL.

Mr. H. A. Hunt,
Supt. of Schools,
Portsmouth, Va.

Dear Sir:

We herewith submit our survey and report on the housing condition of your schools together with a tentative building program.

CHARLES M. ROBINSON, SCHOOL ARCHITECTS
PORTSMOUTH PUBLIC SCHOOLS.

Practically ten years have passed since we were elected School Architects for the city of Portsmouth and submitted to you a report on a survey made of your school housing conditions. At that time the immediate problem was that of satisfactorily locating a new building so as to best serve the City's future population, but the survey was made without attempting an extensive analysis of conditions throughout your City. This method was repeated when considering the location of your new high school. Since this time there have been material changes in conditions and territory has been annexed. The following report is, therefore, supplementary to reports already made and is carried further into detail in order that all important points may be considered.

The most remarkable fact to present itself is that even with the changes due to war conditions and annexation the basic principals determined in these previous surveys have not changed, nor are there any material alterations to be made to your program. Today's problem is to care for your population increase occurring since your last white elementary school was built in 1912, and to replace old buildings which have outlived their usefulness and are not well suited to the demands of a modern school system.

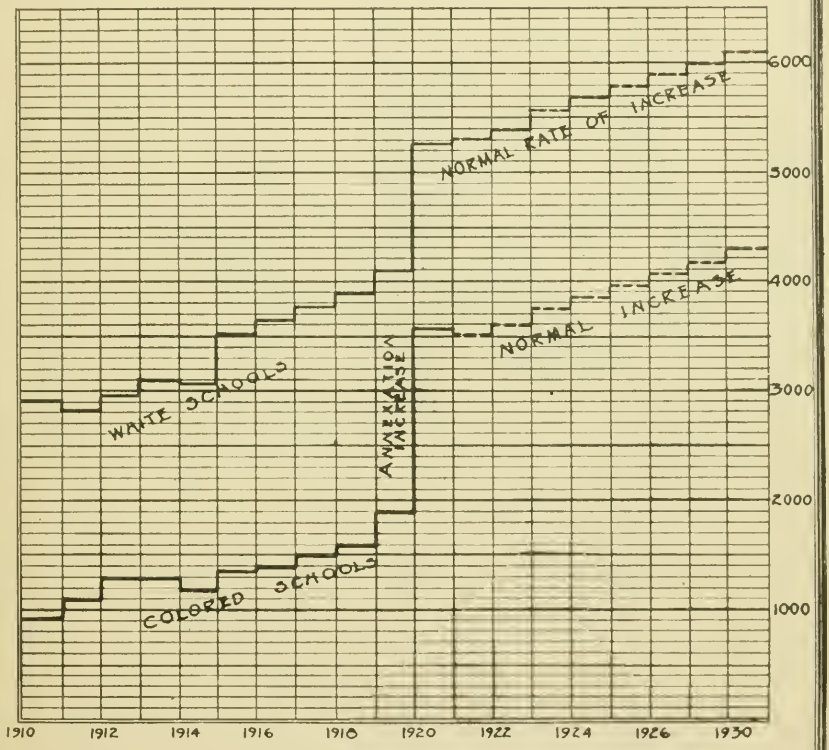
On the thoroughness of your school system of today depends the grade of citizens you will have in the future. Political capital has been made of the fact that we are today developing sixth grade citizens, it having been shown that the average child leaves school in the sixth grade. The demand for better education is insistent, and unless the school housing conditions can be kept practically on a par with the educational standards, material improvement will be unattainable.

Population:

Your school population is shown graphically on charts No. 1, No. 2 and No. 3.

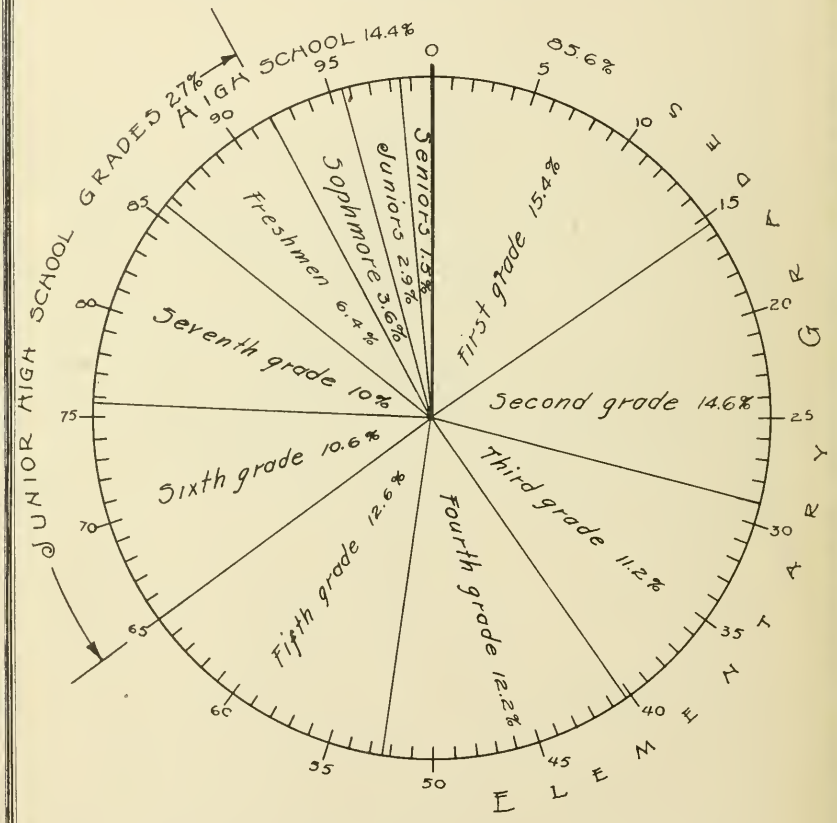
CHART #1

SCHOOL POPULATION 1910 - 1921
WITH NORMAL INCREASE TO 1930



GRADE CHART #2

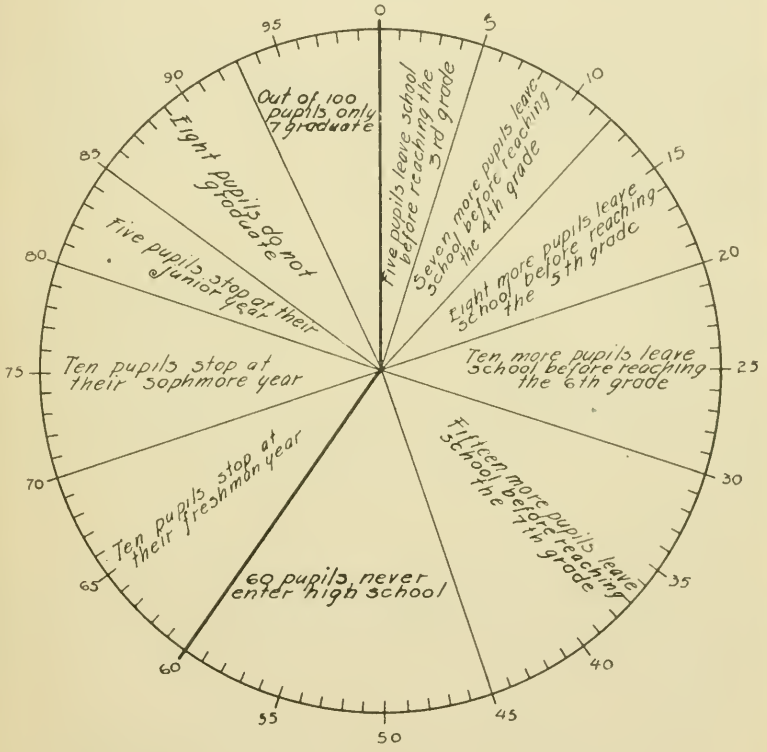
SHOWING PROPORTION OF WHITE SCHOOL POPULATION IN EACH GRADE



THIS CHART BASED ON THE NORMAL RATE OF INCREASE

CHART #3

SHOWING DECREASE OF SCHOOL POPULATION FROM GRADE TO GRADE ON A BASIS OF 100 PUPILS STARTING SCHOOL IN THE 1ST. GRADE



TAKEN FROM THE AVERAGE VALUES 1910 TO 1921 IN PORTSMOUTH, VA. CORRECTED FOR ANNEXATION INCREASE

On chart No. 1, which gives the rate of increase in school population, you will note that, other than as the result of annexation, there has been no material variation in the rate of increase. The maximum variation other than by annexation was in 1914 when the war started. Only a general business depression will create a material drop in rate of increase, as any local depression will immediately upset the normal economic balance, create an abundant labor market and reduce the value of speculative property. Industry is quick to avail itself of the advantages presented, either in the enlargement of existing plants or the building of new plants, with the result that it is only a comparatively short period before conditions return to normal. This is particularly true in view of the housing situation throughout the entire country.

Chart No. 2 shows the relative proportion of your white school population in each grade.

Chart No. 3 shown the loss of pupils as they pass from grade to grade.

This takes into consideration the pupils entering school after the first year; if these pupils were eliminated the proportion of graduates would be materially reduced. As these outside pupils do enter school, and as they influence your school population and housing, we always include them. This loss of pupils from grade to grade is about the general average.

Distribution:

The Master Maps on file at the school board offices (which show the home grade and school of each pupil) show that the City is divided into nine districts, six white and three colored, which we have designated by the schools within the district.

Your present distribution of pupils to the schools is as near perfect as can be obtained until additional rooms are furnished, and your administrative officers deserve the highest credit for the manner in which this difficult problem has been handled.

Part Time Classes:

You have 20 classes with 739 pupils on part time in the white schools and 34 classes with 1,580 pupils on part time in the colored schools. These pupils receive only four hours instructions per day instead of the five hours instruction which the full course requires.

As a result:

(a) You either lower requirements and give your pupils only 80% of the accepted amount of work considered as a standard, in order that they may pass their grades;

OR:

(b) You maintain your requirements, in which event you either force the average pupil to remain in school from one to three years longer, or encourage the normal pupil to leave school because of conditions to which only the supernormal child is equal.

These statements are not idle theory as you will see by again referring to chart No. 3 which clearly shows that of 100 children entering the first grade only 55 reach the 7th grade, only 40 enter high school where only 7 graduate. In other words, less than 50% of your children receive a full grammer school education and only 7% a high school education. This is to a great extent a condition met everywhere and must be to a material extent the result of poor housing conditions and overcrowded grades.

In terms of dollars, the loss to your City of the hour per day by the part time teachers represents a loss of probably $10,000.00 per year in teachers' salaries alone. This does not attempt to estimate the loss due to pupils remaining in school longer and necessitating more years of instruction, nor the resulting increase in the congestion already present.

Building:

The accompanying data sheets show in general the condition of your buildings Among the items indicated is the fact that eight of your buildings are heated by stoves in the rooms.

You will also note the ratings which some of your buildings receive in the recent State Survey made under the direction of Dr. Inglis of Harvard University

GOOD TO AVERAGE.

High School	rating	940
Ann Street School	rating	801
Jefferson Street School	rating	796
Pinners Point School	rating	776
Washington School	rating	763

AVERAGE TO POOR.

Port Norfolk No. 1 School	rating	740
Prentiss Park School	rating	696

POOR TO VERY POOR.

Port Norfolk No. 2 School	rating	639
Cooke Street School	rating	621
Elm Street School	rating	615
Green Street School	rating	596
Glasgow Street School	rating	574

Norcom, Truxton, Brighton, Mount Hermon, Fifth Street and Chestnut Street Schools were not rated, but Norcom and Truxton are probably in the first class, Brighton in the second class and Mount Hermon, Chestnut and Fifth Street are probably the worst in the City.

A summary as to the different buildings considered from the standpoint of suitability, condition, location and possibilities for future extension follows:-

The Woodrow Wilson High School is a practically new unit building, being planned in 1916. Increases in population have made necessary an addition now contracted for. Location just west of the Norcom colored district is as near the center of population as possible without locating the building inside of a colored district. It will approach the center of population as the City continues to develop.

Washington school is centrally located in its district, in good condition and admirably suited to an extension along King Street. It has, however, the disadvantage that land values are high and as a result playground space will be restricted.

Ann Street School is centrally located in its section, well suited to extension and can be developed.

Jefferson Street School has a 12 room addition under contract. While this building is not in the exact center of the district yet is is balanced with Fifth Street School at present and will have a better balance when the Elm School is developed.

Cooke Street School is located almost on the edge of a colored section. While we are not including it after 1930, it being rated below 650, yet it can be used, if necessary, to take care of pupils from both Ann and Washington districts.

Fifth Street School is one of your poorest and should be abandoned as soon as possible.

Green Street School is practically inside of a colored district. It rates below 600 and would not justify any major alterations. As soon as Washington School can be enlarged the pupils should be transferred.

Elm Street School is an assortment of buildings unsatisfactory from an operative and inefficient from an economical standpoint. It is well located for a future unit to provide for the section, using Prentiss Park as a feeder in the more thinly settled section.

Prentiss Park School is as above stated a feeder to Elm Street. While it is rated rather low yet it can be used until 1930, after which abandoment should be considered.

Glasgow School, the lowest of those rated, is composed of a central building and four portables. It shares the disadvantages of Elm Street in addition to the central building being of a lower grade. It should be replaced with a new unit preferably where shown.

Port Norfolk School is composed of two buildings neither of which is adapted to extension. When necessary to provide additional facilities a new building near Franklin Circle should be added as a separate unit owing to the probabilities of development in this direction.

Pinners Point School serves a limited section beyond the Railroad in Port Norfolk district. Its rating is fairly good and it should serve its section until development of the railroad terminal crowds out the residences.

Norcom colored school serves as both high and grammar school and is located as near the center of negro population as possible. It is a new building and should serve indefinitely.

Chestnut Street Colored School is about on a par with the Fifth Street School and must be replaced within the next ten years.

Truxton School is the most expensive in your City being built to government standards without apparent regard to cost. It is entirely satisfactory for its purpose.

Brighton School though only of a fair grade must probably remain for many years.

Mount Hermon School is not a satisfactory unit and should be replaced before 1930; it has already outlived its useful life and cannot be counted on to last much longer.

From the above statements with the careful consideration of report sheets of each building you will see that the buildings range from the high school, which compares favorably with any in the country, to those in such bad condition that only the alternative of turning children out on the streets justifies their use. Your newer buildings measured by any standard show up well and the only possible criticism of your program would be its slowness.

Future Development:

On chart No. 1 is plotted the school population from 1910 to 1921. You will note that other than that caused by annexation all variations in the rate of increase have been small. Using this fact as a basis we have shown the expected increase to 1930. In all cases, however, we have found that a greater rate of increase will be experienced. We doubt if it would be safe to attempt to forecast the increase beyond that time, and this survey should be reviewed about 1930 and any corrections applied before determining your program after that time.

Attention must be given to the direction and location of expansion, and upon the judgment exercised in properly locating this future increase will depend to a large extent the success of your program. For this reason we will take up the possibilites of expanding each district.

Washington District is almost built up solid and will lose some houses to business properties. Therefore, we need only provide for a nominal increase in population.

Jefferson District is well built up except in the section to the southwest. As the above section builds up the opposite side of the district will experience a population loss on account of business developments along the railroads and waterfront. For these reasons the proportion of population increase will be only slightly greater than in Washington District.

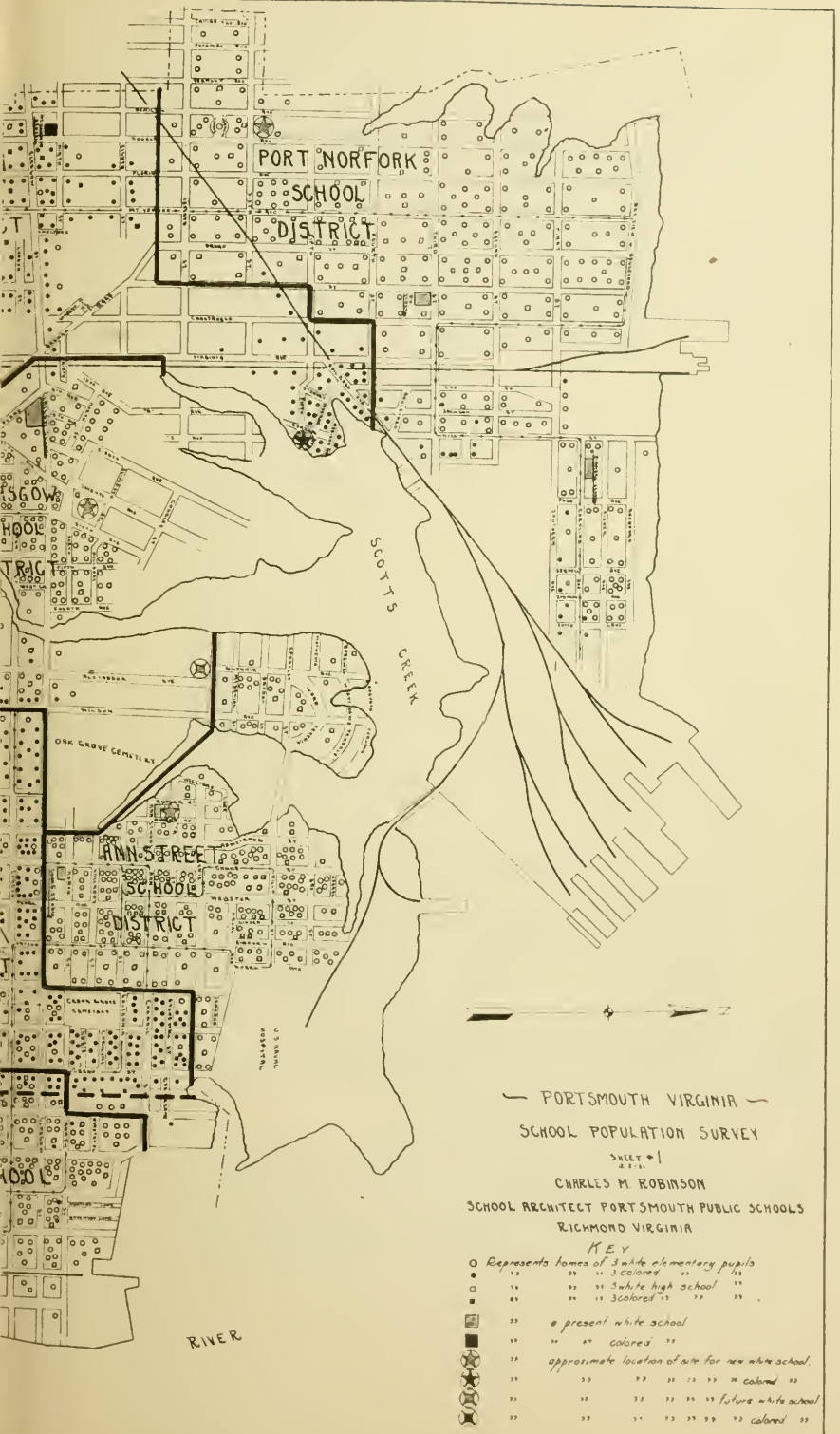
Ann District is well built up in the vicinity of the Cooke Street School, but has considerable vacant property toward the water front and also across the bridge in the West Park View section. As this is very desirable residence property this section should have its full proportion of increase in population. This increase will, of course, decrease in rate as the section becomes more and more built up.

Elm, Glasgow and Port Norfolk districts are as yet comparatively undeveloped. At points these districts show complete development, but there is much vacant property. As they are further from the center of the city they will probably develop more slowly than the inner districts in proportion to the vacant property, but there being more property to develop they will probably develop at about the same rate as the Ann District.

The above would give the probable distribution of the normal 100 pupils a year increase in white school population as Elm, Glasgow, Port Norfolk and Ann Districts 20 each, Jefferson and Washington 10 each.

We cannot make an accurate estimate of where the increases will be in the colored districts owing to the colored population being a more or less "floating"

RODMAN
MOUNT
SCHOOL
SCHOOL DISTRICT
TRUXTON (COLORED)
ELM SCHOOL
DISTRICT
CRADOCK
JEFFERSON SCHOOL
DISTRICT
WASHINGTON
ELIZABETH
Note: See marginal map sheets for more exact location of pupil's home, grade, and school attended


PORT NORFORK
SCHOOL
DISTRICT
SCOTTS
CREEK
OAK GROVE CEMETERY
ANN STREET
SCHOOL
DISTRICT
RIVER
PORTSMOUTH VIRGINIA
SCHOOL POPULATION SURVEY
SHEET # 1
CHARLES M. ROBINSON
SCHOOL ARCHITECT PORTSMOUTH PUBLIC SCHOOLS
RICHMOND VIRGINIA
KEY
Represents homes of 3 white elementary pupils
" " " 3 colored " "
" " " 3 white high school "
" " " 3 colored " "
a present white school
" colored "
approximate location of site for new white school
" " " colored "
" " " future white school
" " " colored "

one and the tendency of the colored people to move into white sections at any point where property is allowed to deteriorate. Comparatively little development is being done in the shape of new buildings for colored people, except in Mount Hermon and Truxton Districts. We would divide the 90 pupil colored increase for this reason into 30 pupils per year for each of the three districts.

A factor to be considered, but being comparatively new is as yet indeterminate in value and is impossible to locate in advance, is the growing tendency to the use of apartments. This will affect the total population but slightly and minor corrections may be applied if any general building of apartments is started.

The high school population, which shows an increase of 36 in the white high school per year, will, of course, be drawn nearly in proportion to the school population, and should be taken care of in your present building with the addition under contract until necessary to build Junior High Schools.

TABLE NO. 1.

Present Needs in Schools.

District.	Rooms At Present	Pupils in Schools will fill rooms.
Washington	22	22
Jefferson	16	24
Ann	16	16
Glasgow	12	14
Elm	12	16
Port Norfolk	12	19
High School	23	34
Norcom	28	28
Truxton	18	24
Mount Hermon	8	17
Total rooms needed	167	214

The above table includes all temporary buildings used in connection with the school buildings. Rooms are based on 30 pupils for white high school classes, 40 pupils for white elementary school classes, and 45 pupils for colored classes as these have the most pupils that you can average due to irregularities in size of grades.

You have contracts let for the following additional class rooms:

Jefferson School	12 rooms
High School	10 rooms

which leaves a net shortage of 29 rooms at this time.

To this must be added the necessary replacements and increases before 1925 as follows:

TABLE NO. 2..

Replace Glasgow Street School	12 rooms
Replace Elm Street School	11 rooms
Increase in population	10 rooms
Additional rooms needed over Table No. 1 before 1925	33 rooms
Total rooms needed before 1925	62 rooms

Next, should be considered the replacement of all buildings classed as unsuitable. These should be replaced before 1930 as it is probable that they will be condemned by that time; material repairs may be made upon these buildings but they would be of doubtful value. These are given in table No. 3 below:-

TABLE NO. 3.

Replacements and additions 1925 to 1930.

Abandon Fifth Street School	8 rooms
Abandon Cooke Street School	8 rooms
Abandon Green Street School	12 rooms
Abandon Chetnut Street School	8 rooms
Abandon Mount Hermon School	8 rooms
Increase in population not less than	12 rooms
Total additional rooms 1925 to 1930	56 rooms

Progam:

To present a logical method in view of the data in hand, we would suggest that the following distribution of rooms be made by districts.

WASHINGTON DISTRICT.

Additional rooms needed at once	0
Additional rooms needed before 1925	1
Additional rooms needed before 1930	14
Total rooms needed before 1930	15 rooms
Addition to Washington Street School before 1930	16 rooms

JEFFERSON DISTRICT.

Additional rooms needed at present	8
Additional rooms needed before 1925	9
Additional rooms needed before 1930	1
Total rooms needed before 1930	18
Addition to Jefferson School (under contract)	12 rooms

The 6 extra rooms should be shifted to Elm Street School when Fifth Street School is abandoned, and the district reduced in size.

ANN DISTRICT.

Additional rooms needed at once	0
Additional rooms needed before 1925	2
Additional rooms needed before 1930	10
Total rooms needed before 1930	12
Addition to Ann School before 1930	12 rooms

ELM DISTRICT.

Additional rooms needed at once 4
Additional rooms needed before 1925 12
Additional rooms needed before 1930 2
Additional rooms for pupils shifted from Jefferson District 6
Total rooms needed before 1930 24
Replace Elm Street School with 24 room unit building by 1925.

GLASGOW DISTRICT.

Additional rooms needed at once 2
Additional rooms needed before 1925 14
Additional rooms needed before 1930 3
Total rooms needed before 1930 19
Building to replace Glasgow School build before 1925 where shown ..... 20 rooms

PORT NORFOLK DISTRICT.

Additional rooms needed at once 7
Additional rooms needed before 1925 2
Additional rooms needed before 1930 2
Total rooms needed before 1930 11
New building near Franklin Circle before 1925 ..... 12 rooms

NORCOM DISTRICT.

Additional rooms needed at once 0
Additional rooms needed before 1925 4
Additional rooms needed before 1930 13
Total rooms needed before 1930 17
Building to replace Chestnut Street School before 1930 ..... 20 rooms

TRUXTON DISTRICT.

Additional rooms needed at once 6
Additional rooms needed before 1925 2
Additional rooms needed before 1930 3
Total rooms needed before 1930 11
Building near Maupin Street before 1930 ..... 12 rooms

MOUNT HERMON DISTRICT.

Additional rooms needed at once 9
Additional rooms needed before 1925 2
Additional rooms needed before 1930 11
Total rooms needed before 1930 22
Building near where shown at Pinners Point at once ..... 4 rooms
New Mount Hermon School (needed at once) before 1925 ..... 18 rooms

Lots:

One of your immediate considerations is the question of lots for future buildings. No greater mistake can be made than to wait until ready to erect a building before purchasing the necessary lot. This results in the paying of high prices for lots where it is frequently necessary to remove buildings, and also tends to restrict playground space because of high cost of ground. We would recommend that after your future policy is outlined that you purchase lots for future buildings as rapidly as funds can be secured, and we show on map sheet No. 1 several probable locations. Should it prove necessary to change your program due to conditions these lots can always be sold without loss.

Playgrounds:

We also advise that playgrounds be given consideration at this time. Where there are numerous vacant lots and commons it is hard to justify the purchase of property for playgrounds. However, when a section is once built up, property can then only be converted into playgrounds at an almost prohibitive cost. This question must come up not only in the purchase of lots for new buildings but also in regard to present buildings.

Extensive Building Programs:

Your attention is called to many cities in the North and West where extensive building programs for schools involving millions are now under way, and where old school buildings are often ignored and some times destroyed before they have outlived their usefullness. These people have learned that the old policy of erecting a school building by accident, personal whim or self-interest of some one in authority, or special group interest, does not pay financially and usually results in not having school facilities for many of the children. This policy of wiping the slate clean and beginning a new program will be watched with interest. I do not doubt that many years hence these cities will be ahead in a financial sense, and be able to educate their children at less cost per capita than formerly.

We do not believe, however, that it would be policy for Portsmouth to attempt any such program, as it yet remains to be proven that it will be more economical than the policy of using all available buildings as long as possible and adding as necessary.

Unit Building:

Recently we have been devoting more study to the standardized unit building. While costing slightly greater in first cost, these buildings can be added to at any time without destroying any value. While this plan permits the building to meet only present needs, yet it provides for future needs at a minimum initial cost. As you have advocated standardization continuously since we were first elected your School Architects we feel it a waste of time to discuss further its advantages.

BUILDING CONSTRUCTION.

The following recommendations, with most of which you are familiar, are here repeated as a memorandum.

Fireproofing:

In view of the comparatively high costs of fireproof buildings, it is at times impracticable to use fireproof construction for all buildings. No building, however, should be built unless of the so called "Fire Resisting" class. By this we mean fireproof walls, corridors, stairs and fireproof slab over the heating plant. The roof should be covered with an Underwriters' "Class A" roof, and all wood framing covered with metal lath and plaster. This construction while not fireproof, gives protection to the children in that the exits are always safe, and by the fireproof slab over the heating plant and the metal lath over the wood framing the chance of fire is reduced to a minimum.

A somewhat more fireproof building can be built of brick with the so called "Metal Lumber" floor construction. This type of building is incombustible and we believe will prove fireproof for all buildings where no great quantity of combustible material is stored. We would recommend, however, that a concrete slab be placed over the furnace and coal rooms. This type of building is rated fireproof by the Underwriters with a slight penalty.

Next comes the reinforced concrete building. In most cases we have built this type of school with wood framed roof as the cost of a fireproof roof slab has been out of proportion to its value. Unless your building is exposed to a serious fire risk from surrounding buildings this construction should prove satisfactory.

Light:

The Virginia State Law requires that window area of school rooms be equal to one-fourth of the floor area, and light to be admitted from the left or left and rear of the pupils. This may be done by either the unilateral or bi-lateral system. Both systems have their advocates, but in large buildings bi-lateral lighting is not practical except in corner rooms. In our opinion, the important thing is to get plenty of window area located with the tops close to ceiling and without division between the windows. The reason for the latter recommendation is to prevent alternate light and shadows in the rooms.

Heating and Ventilation:

Probably no one item in school construction has presented more problems than the school heating and ventilating system. The law requires 30 cu. ft. of fresh air per pupil per minute. This means 72,000 cu. ft. of air per hour for each forty pupil class room. The controlling of the temperature of this large quantity of air has been in the past the most difficult problem in school heating. When no temperature control is provided it is almost impossible to maintain a satisfactory temperature in rooms in which the air is changed every $6\frac{2}{3}$ minutes. Temperature control apparatus has been developed to the point where it can now be depended upon to produce satisfactory results.

As to the manner of or method of heating, we have long preferred on account of its simplicity the warm air plant designed to meet our standard specifications. We know there are many technical and theoretical arguments pro and con for each system, but have regarded them as to a great extent talking points for the systems advocated by the salesman. Practically it is possible to design any system to meet any reasonable efficiency or guarantee. As a test of this we recently designed three plants for a large school building to meet the same effi-

ciency. We had these checked by a prominent advocate of the steam systems who reported the efficiencies to be practically the same and that to reduce the cost of any system would make any of the others preferable. Bids were secured from both local and large outside firms resulting as follows:

Warm Air	$34,782.00 Bond, Guarantee & Maintenance 5 years.
Hot Blast (steam)	$40,092.00 Guarantee 1 year, no maintenance or bond.
Split (steam)	$40,986.00 Guarantee 1 year, no maintenance or bond.

The low bids on the steam plant were from one of the largest heating concerns in the country and no local contractor was within $10,000 of the warm air bid.

With this data before us it would appear impossible for a steam plant of the same efficiency to compete in price with a well designed warm air plant. We believe, however, that all specifications should be so written that any contractor may bid on any system he desires, in order to take advantage of any new developments brought out.

Humidity control is prehaps as serious as any problem in heating and ventilation. In a closed room without ventilation the human bodies usually give off enough moisture to maintain a hunidity relatively high, but frequently of a dangerous character. In ventilated rooms the heating of the air lowers its humidity with the result that the air feels dry. This is overcome to some extent by the introduction of water pans into the heating chamber. As health authorities have never agreed on what is the proper amount of humidity we have placed a humidifier pan in the plenum chamber and made no attempt at control.

Damp Prevention:

The question of humidity also brings up the question of furring or waterproofing outside walls to prevent dampness. We have observed considerable tendency in the Portsmouth section for dampness to show on the inside of the exterior walls. This may be due to dampness coming through the wall, or it may be condensation on the inside. Waterproof paint under the plaster would cure the former, but it will have no effect on the latter. Furring the walls with wood strips, laths and plaster, or lining with hollow tile is the only remedy for condensation

Soil:

In all tidewater sections is run the risk of bad foundations, that is, the soil will not sustian great loads. This often forces the use of either piling or increased footings to compensate for weakness of soil. The lightest building you can erect consistent with strength is desirable and is also the most economical. It does not follow that a building of massive construction is the strongest or most lasting.

In recent years "Metal Lumber" has been introduced which would be a better material than wood joists and lighter than steel and concrete. It should be given consideration when you plan your future buildings.

Ventilated Wardrobes:

Ventilated wardrobes, originated by us a number of years ago, and now being copied in many parts of the country, are unquestionably the most satisfactory solution of the cloak room problem. They occupy less space and thoroughly ventilate

the clothes. If the clothes are wet when hung up they will be dry when again needed. They also act to distribute the air evenly over the class room and prevent drafts on the floor.

Sanitaries:

This is one of your most serious problems. In a portion of your City you have no sewers and in other portions the sewers are not adequate. Few people realize that during five hours per day the few toilets in your schools must handle the sewage from one-fifth of your total population. These toilets are always congested during the recess periods and it is impossible to use the same apparatus in a toilet room handling some 20 pupils per seat as could be used in the average house without creating filthy conditions. Toilets must be ventilated; due to the trouble experienced in getting janitors to keep fire burning in stack heaters we have abandoned these heaters in favor of vent fans with signal lights in the principal's office. We have favored the ventilated latrines on account of their simplicity and the difficulty in properly ventilating an individual seat. These are, however, prohibited in Portsmouth so we have been using the vented seat and are experimenting on automatic flush valves in connection with ventilated closets. We believe that within the next few months we will have developed an arrangement which will prove satisfactory both as to flushing and ventilation. The standard ventilated urinal of slate is about as satisfactory as can be obtained for school purposes.

Toilet stalls for boys should have no doors for obvious reasons, but all stalls for girls should have doors even in the elementary grades.

Drinking Fountains:

Drinking fountains should be put 24 inches high on first floor in elementary schools and 30 inches on second floor. They should never be placed over a wash basin. If more than one head is required, use a special enamel trough. Drinking fountains are sources of endless trouble to school authorities. Water pressue varies in every municipal system and some times the flow is so weak that nothing but a "bubbling cup" will answer. This type of fountain is condemned by health authorities, because the child puts its mouth on it or spits in it. Heads having several streams together in the center are considered sanitary, but it is difficult to regulate the pressure, sometimes the water cannot be reached and next time when valve is open it strikes the child in the face. We have remedied this by placing a tank to give a constant pressue.

Accessory Rooms:

Your older buildings are not well supplied with rooms other than class rooms, such as teachers' rest rooms, principal's office, infirmaries, etc., and when your new buildings are planned a more convenient arrangement should be obtained. Regarding medical inspection, the infirmary at each school should be fitted up with toilet, an examining room, scale, etc. A room for testing of eyes would be a great aid to the medical inspector.

Open Air Classes:

Twenty pupils can be very confortably housed in an open air class room occupying the same space as a regular class room. In the open air class rooms kitchenette, wardrobes and place for cots, blankets and wraps must be provided.

Blackboards:

This is a very minor item, but we hear lots of complaints especially where blackboards are not of right height for the different grade pupils. Recently a questionaire was sent out to a number of teachers; answers varied, but the prevailing opinion was that blackboards should be 3 feet 6 inches wide, and:-

Kindergarten	set 26 inches above floor
1st, 2nd & 3rd grades	set 28 inches above floor
4th, 5th, 6th and 7th grades	set 32 inches above floor
High School	set 32 inches above floor

Administration Building:

One of the most important features of your school system should be a good administration building centrally located. Your present quarters are cramped and lack storage facilities. Many people running in and out of a school building interfere with the work and discipline of the school, and the time of the superintendent and other officials is too valuable to be taken up with children's annoyances. The administrative department should be purely for business and should have separate quarters.

POLICY

As to the policy of your Board for the period outlined, we would make the following suggestons as a basis for discussion. It will have the advantage to your Board of having a definite objective in view and will provide means whereby you will have the majority of your people working to the same end and thinking along the same lines.

General:

(1) Purchase an entire block for each future school, where it can be secured at a reasonable cost.

(2) Secure by options or purchase or gift from time to time large sites in sections which will be later developed.

(3) Locate elementary school, within ½ mile of practically every pupil and build as large units as possible instead of several smaller buildings.

(4) Fireproof buildings where exposed to great fire hazard.

(5) Fireproof (except roof) where fire hazard is comparatively high, but with ample space all around school building.

(6) Have all other buildings fire protected, i. e., Fireproof corridors, stairs, and furnace rooms with brick walls and metal lath on wood joist in other rooms.

(7) Eliminate all ultra-refined features which increase the ultimate cost at least until all unsatisfactory or low grade buildings are replaced.

(8) Build no elementary school over two stories and basement in height.

(9) Erect only standardized unit buildings in future.

(10) Have a check survey made every 10 years for the purpose of outlining a policy for the next decade.

Specific:

We suggest:

(11) That a lot be purchased for Glasgow Street School, also lots be purchased for the Pinners Point and Mount Hermon colored schools; also, lots for additions at Washington and Ann Street Buildings.

(12) That other lots near where shown on map sheet No. 1 be obtained as soon as funds are available.

(13) Replace Glasgow, build Franklin Circle and replace Elm white schools in order named as soon as possible; build Pinners Point and replace Mount Hermon colored schools as soon as possible. The above, which are the most urgent, should be followed by additions to Washington and Ann white schools and the building of the Maupin Street (near where shown) and the building to replace Chestnut Street School.

(14) Erect an administration building not connected to any school and where in addition to suitable quarters for the officials supply rooms and stock rooms can be provided.

There may be other considerations which may cause you to modify the above recommendations. However, the above policy is a synopsis of that advocated by us in the past and has been the main factor in maintaining a lower cost per pupil for our clients than that given in any published statistics available in buildings comparing favorably with any in the country.

Estimates:

In planning your buildings you must bear in mind that while prices have stabilized, in fact increased slightly recently, and close estimates are possible, yet costs are practically twice pre-war prices.

CONCLUSION.

We feel that the survey and report as now presented to you with the information furnished by your people, with that collected by our representatives, with the analytical and detail work of our office force, are as nearly complete as can be obtained.

We desire to express our appreciation of the hearty co-operation given by your teachers, principals and officers, as well as the members of your Board. There has been an enormous amount of detail work principally in securing the home location, grade and school of every pupil and transferring to maps, and your people have given freely and cheerfully large parts of their time assisting us.

The assistance given by Mr. Hunt in particular in furnishing data and helping in the preparation of this report has been invaluable.

It is to this kindly assistance given without hope of personal gain that much of the success of this survey may be attributed, and we wish to express our gratitude to these, our friends, with whom we have worked for the past decade as School Architects for the City of Portsmouth.

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